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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/512,909	02/25/2000	Keith Russell Edwards	476-1568.1	7736

7590 08/15/2003

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EXAMINER

NGUYEN, HUY D

ART UNIT	PAPER NUMBER
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2681

DATE MAILED: 08/15/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/512,909

Applicant(s)

EDWARDS ET AL.

Examiner

Huy D Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-26,28-37,39,40 and 42-56 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

- 5) ☐ Claim(s) _____ is/are allowed.

- 6) ☒ Claim(s) 23-26,28-37,39,40 and 42-56 is/are rejected.

- 7) ☐ Claim(s) _____ is/are objected to.

- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 23-26, 28-37, 39-40, 42-55 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 23-26, 28-29, 34, 37, 39-40, 42-43, 48, 51-56 are rejected under 35

U.S.C. 102(e) as being anticipated by Granata et al. (U.S. Patent No. 6,009,307).

Regarding claims 23, 39, 55, Granata et al. discloses a receiver arrangement for a wireless terminal comprising: a plurality of antennas forming a diversity antenna arrangement [col. 3, line 10]; a plurality of receive paths, each receive path associated with one of antennas [col. 3, line 11]; a delay element in at least one of receive paths [col. 3, line 14]; a plurality of switches, each switch associated with one of receive paths [col. 3, lines 19-20]; a combiner, arranged to combine the output of plurality of switches into a combined signal [col. 3, line 12]; a signal assessor, arranged to assess combined signal according to a predetermined metric [col. 3, lines 20-22]; and a controller, arranged to selectively switch at least one antenna into its receive

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path and to determine dependent on assessment whether to change signal selection or to maintain signal selection for a predetermined period [col. 3, lines 22-24].

Regarding claims 24, 51, 56, Granata et al. discloses a receiver arrangement as claimed in claim 23, wherein predetermined metric is a received signal quality metric [col. 3, lines 20-22].

Regarding claim 25, Granata et al. discloses a receiver arrangement as claimed in claim 23, wherein each of the receive paths except for one is provided with a delay element arranged to time delay signals received by the antenna associated with receive path [col. 3, line 14].

Regarding claims 26, 40, Granata et al. discloses a receiver arrangement as claimed in claim 23, wherein the controller switches signals into the receive path and signals currently in the receive path out of the receive path [col. 11, lines 43-57].

Regarding claims 28, 42, Granata et al. discloses a receiver arrangement as claimed in claim 23, wherein the receiver arrangement uses a code division multiple access technique [col. 4, line 51].

Regarding claims 29, 43, Granata et al. discloses a receiver arrangement as claimed in claim 23, wherein the signal assessor is arranged to assess the carrier to noise power ratio of received signals [col. 10, lines 64-67].

Regarding claims 34, 48, Granata et al. discloses a receiver arrangement as claimed in claim 23, further comprising a rake receiver arranged to combine signals [col. 9, line 8].

Regarding claim 37, Granata et al. discloses a receiver arrangement as claimed in claim 23, wherein the predetermined metric comprises a multi-path metric which can be set so that only one of plurality of antenna is employed [col. 3, lines 26-28].

Regarding claim 52, Granata et al. discloses a wireless access subscriber equipment arrangement including a wireless receiver arrangement as described in claim 23 [col. 4, lines 62-64].

Regarding claim 53, Granata et al. discloses a receiver arrangement according to claim 23 wherein the wireless receiver arrangement is a fixed wireless subscriber terminal [col. 4, line 58].

Regarding claim 54, Granata et al. discloses a receiver arrangement according to claim 23 wherein the wireless receiver arrangement is a mobile wireless subscriber terminal [col. 4, lines 59-60].

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 30-33, 36, 44-47, 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Granata et al. (U.S. Patent No. 6,009,307).

Regarding claims 30, 44, Granata et al. discloses the claimed invention except that spatial diversity is employed to differentiate signals. However, the preceding limitation is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to employ spatial diversity to differentiate signals since that improves the receive signal quality.

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Regarding claims 31, 45, Granata et al. discloses the claimed invention except that polarization diversity is employed to differentiate signals. However, the preceding limitation is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to employ polarization diversity to differentiate signals since that improves the receive signal quality.

Claims 32, 46 is the combination of claim 30 and 31. Therefore, it is rejected with the same reasons as set forth in claims 30 and 31.

Regarding claims 33, 47, Granata et al. discloses the claimed invention except that hysteresis is employed to control the switching. However, the preceding limitation is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to employ hysteresis in order to prevent rapid switching.

Regarding claims 36, 50, Granata et al. discloses the claimed invention except that MLSE technique is employed. However, the preceding limitation is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to employ MLSE to improve bit error rate.

6. Claims 35, 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Granata et al. (U.S. Patent No. 6,009,307) in view of Dean et al. (U.S. Patent No. 5,533,011).

Regarding claims 35, 49, Granata et al. discloses the claimed invention except that each delay element is operable to delay the signals with respect to each other by a period T , corresponding to the chip rate of a spread spectrum transmission scheme in accordance with which signals are provided. Dean et al. teaches that the high speed pseudonoise (PN) modulation

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allows many different propagation paths to be separated, provided the difference in path delays exceed the PN chip duration, i.e. $1/\text{bandwidth}$ [col. 2, lines 40-42; col. 9, lines 25-35]. Granata et al. and Dean et al. are combinable since they are in the same field of endeavor, that is telecommunications. It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have each delay element operable to delay the signals with respect to each other by a period T , corresponding to the chip rate of a spread spectrum transmission scheme in accordance with which signals are provided in order to separate different propagation paths.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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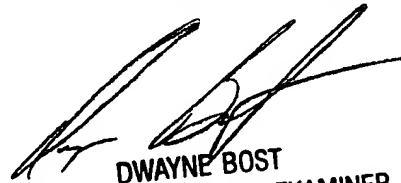
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huy D Nguyen whose telephone number is 703-305-3283. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost can be reached on 703-305-4778. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-6750.

HJ

August 11, 2003


DWAYNE BOST
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600